

ABSTRACT

Methods for delivering a biologically active molecule into a cell by linking a molecule to the cell surface, wherein the molecule can act as a surface receptor, then complexing the biologically active molecule with a ligand for the surface receptor, and finally contacting the biologically active molecule-ligand complex with the cell surface are disclosed. Delivery of any biologically active molecule, e.g. proteins, enzymes, nucleic acids, hormones, nucleic acids, and oligonucleotides, is contemplated. The use of biotin or biotinylated antibodies as the surface receptor is disclosed. The use of PEI and PEI-avidin conjugates complexed with oligonucleotides for delivery into a directly or indirectly biotinylated cell surface, along with the PEI-avidin-nucleic acid compositions, are disclosed. Primary and cultured cells with a covalently linked surface receptor molecule, such as biotin, on their surfaces are also disclosed.